Patent Claims

1. A method for the laser drilling of laminates which have at least one metal layer and at least one dielectric layer comprising an organic material, characterized by the use of a frequency-doubled Nd vanadate laser having the following laser parameters:

- Pulse width	< 40 ns
- Pulse frequency	≥ 30 kHz for the metal layer
	≥ 20 kHz for the dielectric layer
- Wavelength	= 532 nm.

2. The method as claimed in claim 1, characterized in that a pulse width of < 30 ns is used.

3. The method as claimed in claim 1 or 2, characterized in that a focused laser beam with a spot diameter of between 10 µm and 100 µm is used.

4. The method as claimed in claim 3, characterized in that a focused laser beam with a spot diameter of between 20 µm and 40 µm is used.

5. The method as claimed in one of the preceding claims, characterized in that additives which have good absorptance for laser beams with a wavelength of 532 nm are admixed with the organic material.

6. The method as claimed in claim 5, characterized in that at least one inorganic and/or organic pigment and/or at least one polymer-soluble dye and/or at least one fibrous filler is used as additive.

7. The method as claimed in claim 6, characterized in that at least one inorganic red

pigment and/or an organic red pigment and/or a polymer-soluble red dye is used as additive.

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8. The method as claimed in claim 6 or 7, characterized in that between 0.1% by weight and 50% by weight of pigments are admixed with the organic material.

9. The method as claimed in claim 6 or 7, characterized in that between 1% by weight and 2% by weight of pigments are admixed with the organic material.

10. The method as claimed in one of claims 5 to 9, characterized in that the organic material, on account of the admixed additives, has an absorptance of at least 50% for the wavelength 532 nm of the laser radiation.

11. The method as claimed in one of claims 5 to 9, characterized in that the organic material, on account of the admixed additives, has an absorptance of at least 60% for the wavelength 532 nm of the laser radiation.

12. The method as claimed in one of claims 5 to 9, characterized in that the organic material, on account of the admixed additives, has an absorptance of at least 80% for the wavelength 532 nm of the laser radiation.

13. A device for the laser drilling of laminates which have at least one metal layer and at least one dielectric layer comprising an organic material, using a frequency-doubled Nd vanadate laser having the following laser parameters:

- Pulse width < 40 ns

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- Pulse frequency		≥ 30 kHz for the metal layer ≥ 20 kHz for the dielectric layer
5 - Wavelength		= 532 nm.

Add A2